        - **They operate over very short distances**
- **Permanent dipole interactions**
    - **Permanent dipole interactions occur with opposite partial charges on polar molecules**
    - The most electronegative atom has a partial negative charge whereas the least electronegative atom carries a slight positive charge
- **Steric repulsion**
    - **Steric repulsion is different from dispersion forces and dipole interactions**. Steric repulsion, as the name suggests, is the **repulsion of 2 molecules due to the surface electrons**
    - The repulsion operates over **very short distances**
        - **Once the molecules have been repelled far enough, dispersion forces and dipole moments cause the molecules to be attracted again**

- **Van der Waals interaction** is the term used to describe the **overall interaction** between to molecular species, taking into account the dispersion forces, dipole interactions and even steric repulsions
    - Only molecules that are **non-covalently** bonded are taken into account here
    - This sum aims to show the **optimum distance** for attraction between the 2 molecules
    - The right image shows an example of the optimum distance between two molecules